

Claims:

1. A method for using an alternate performance test to test products with at most substantially the same margin of error as a specification test, comprising:

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establishing a specification test limit within which a product would be accepted under specification test criteria and inner and outer alternate test error bounds relative to the specification test limit;

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initially testing the product with the alternate test;

accepting the product if the alternate test result is within the inner alternate test error bound;

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rejecting the product if the alternate test result is outside the outer alternate test error bound; and

retesting the product using the specification test if the alternate test result is on or between the alternate error bounds.

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2. The method of claim 1, further comprising modifying a production test to produce a specification test whose guardband is narrower than the production test.

3. The method of claim 2, further comprising rejecting the product if the specification test result is outside the specification test limit.

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4. The method of claim 3, comprising rejecting the product if the specification test result is outside the specification test limit.

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5. The method of claim 4, wherein the alternate test provides a reduction of test time from that required by the specification test.

6. The method of claim 5, wherein the alternate test is a signature test.
7. The method of claim 6, wherein the parameter value distribution for the product is peaked, and the specification test has upper and lower test limits.
8. The method of claim 3, wherein the parameter value distribution for the product is peaked, and the specification test has upper and lower test limits.
9. The method of claim 3, wherein the alternate test provides a reduction of test time from that required by the specification test
10. The method of claim 9, wherein the alternate test is a signature test.
11. The method of claim 1, wherein the alternate test provides a reduction of test time from that required by the specification test
12. The method of claim 11, wherein the alternate test is a signature test.
13. The method of claim 12, wherein the parameter value distribution for the product is peaked, and the standard test has upper and lower test limits.
14. The method of claim 1, wherein a plurality of products are tested serially and the error bounds are rest one or more times based on previous test results.
15. The method of claim 14 incorporated into an automated product test system.
16. The method of claim 1 incorporated into an automated product test system.

17. The method of claim 1, wherein the standard test comprises a set of individual specification tests for product parameters, and the alternate test comprises a set of individual performance tests from which said parameters may be extracted.
- 5 18. The method of claim 1, wherein the products tested are electronic integrated circuits.
19. The method of claim 1, wherein the products tested are electronic systems on a chip.